

Paper Reference 8MT0/41

Pearson Edexcel

Level 3 GCE

Total Marks

Music Technology

Advanced Subsidiary

COMPONENT 4: Producing and analysing

Time: 1 hour 45 minutes plus 10 minutes setting up time

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

Y74789RA



Pearson

YOU MUST HAVE

**2022 Pearson audio/MIDI files,
headphones or monitor speakers, digital
audio workstation (DAW) and MIDI
keyboard.**

YOU WILL BE GIVEN

Diagram Booklet

Turn over

SETTING UP TIME

Open a new project in your DAW using **16 bit/44.1 kHz** sample rate.

Save the project as '**comp4_your candidate number**' (e.g. **comp4_1234**) in the folder designated by your centre.

Set the metronome to **128 bpm**.

Import '**drums.wav**' to a new track in your DAW, aligned with the beginning of bar **1**.

Ensure that the drums are audible and begin on beat **1** of bar **2**. Ensure the drums play in time with the metronome during the first **4** bars.

You must not open the paper until instructed to do so by the invigilator.

Turn over

INSTRUCTIONS

Answer ALL questions.

Answer the questions in the spaces provided in this Question Paper or on the separate diagrams – there may be more space than you need.

Save your audio files for Questions 1, 2, 3 and 5 within the 1 hour 45 minutes examination time.

You must ensure that the left and right earpieces of your headphones are worn correctly.

Access to a calculator or calculator software is not permitted.

Access to the internet or local network is not permitted.

Turn over

INFORMATION

The total mark for this paper is 84.

The marks for EACH question are shown in brackets – use this as a guide as to how much time to spend on each question.

There may be spare copies of some diagrams in case you need them.

ADVICE

Read each question carefully before you start to answer it.

Try to answer every question.

Check your answers if you have time at the end.

SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions are multiple choice. Write the letter(s) of your chosen answer(s) in the box(es) provided.

Question 1 is about the drum part.

Turn over

1. Listen to the drum part that you have imported.

(a) (i) Identify the most suitable quantise value for the kick drum pattern in bars 2–5.

A $1/2$

B $1/4$ dotted

C $1/4$

D $1/8$

Answer

(1 mark)

(continued on the next page)

Turn over

1. (a) continued.

(ii) Name ONE style of music
that uses the drum pattern
heard in the opening 4 bars.

(1 mark)

(continued on the next page)

Turn over

1. continued.

(b) There are timing errors at the end of bar 18 and during bar 19.

- **Remove the section of drums with timing errors.**
- **Copy bar 21 without the cymbal splash.**
- **Use this to repair the errors in bar 19. It should be identical to bar 21 up to the cymbal splash.**
- **Make sure the last hi-hat remains in bar 19.**

(4 marks)

(continued on the next page)

Turn over

1. continued.

Bounce/export the completed drum part as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q1_your candidate number' (e.g. q1_1234).

(continued on the next page)

Turn over

1. continued.

- (c) (i) Name the type of reverb applied to the clap in bar 33.
(1 mark)**

- (ii) Describe the filter applied to the delay in bar 29.
(2 marks)**

(continued on the next page)

Turn over

1. continued.

**(d) Refer to the diagram for
Question 1(d) in the
Diagram Booklet.**

**Draw the drum pattern for
bar 36 on the piano roll editor in
the Diagram Booklet.**

(4 marks)

(Total for Question 1 = 13 marks)

Turn over

Question 2 is about the keyboard.

- 2. Import 'keyboard.mid' to a new instrument track in your DAW. Align the part so that the first note is at the start of bar 2.**

Import 'keyboard example.wav' to a new audio track in your DAW. This file illustrates how bars 1–6 of the keyboard should sound.

Do not use this audio in your final mix.

(continued on the next page)

Turn over

2. continued.

(a) The keyboard sound is made with a synthesiser.

**(i) Name the oscillator waveform.
(1 mark)**

**(ii) State the number of
oscillators used to create
this sound.
(1 mark)**

(continued on the next page)

Turn over

2. continued.

(b) Choose a keyboard sound that is similar to 'keyboard example.wav'.

Ensure that:

- the octave matches the example**
- there are no effects.**

(4 marks)

(continued on the next page)

Turn over

2. continued.

(c) Apply volume automation to the long chord that plays from the end of bar 24 to the end of bar 25.

- The chord should be quiet but still audible when it starts playing.**
- It should gradually get louder through to the end of bar 25, finishing at the original level.**
- There must be no other volume changes in the keyboard part.**

(3 marks)

(continued on the next page)

Turn over

2. continued.

Bounce/export the completed keyboard part as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q2_your candidate number' (e.g. q2_1234).

(continued on the next page)

Turn over

2. continued.

(d) Refer to the diagram for Question 2(d) in the Diagram Booklet. It shows an analogue chorus pedal.

(i) Give TWO reasons why chorus might be used on a synthesiser.

(2 marks)

Answer lines continue on the next page.

1

Turn over

2. (d) (i) continued.

2

**(ii) Describe the function of the
rate control.
(2 marks)**

(Total for Question 2 = 13 marks)

Turn over

Question 3 is about the vocal.

- 3. Import 'vocal.wav' to a new track in your DAW. The beginning of this audio track should be aligned with the start of bar 1. The vocal starts in bar 9.**

(continued on the next page)

Turn over

3. continued.

(a) Identify the audio editing technique used in bar 26, beat 4 on the word ‘wanna’.

A Beat–matching

B Pitch–correction

C Stuttering

D Time–stretch

Answer

(1 mark)

(continued on the next page)

Turn over

3. continued.

(b) Recreate this technique starting on bar 27, beat 2.

- **Copy the word 'I' from bar 26.**
- **Use this to create the same timing and number of repeats as heard in bar 26, beat 4.**

(3 marks)

(continued on the next page)

Turn over

3. continued.

(c) The vocal part has a bit-crusher effect added in bar 35. Describe what a bit-crusher does.

(3 marks)

(continued on the next page)

Turn over

3. continued.

(d) Add a similar bit-crusher effect to the vocal from the start of bar 28 to the end of the vocal phrase in bar 29.

(4 marks)

Bounce/export the completed vocal part as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q3_your candidate number' (e.g. q3_1234).

(continued on the next page)

Turn over

3. continued.

**(e) Refer to the diagram for
Question 3(e) in the
Diagram Booklet.**

**It is a graph that shows the EQ
used for the telephone voice
effect in bars 32–33.**

(continued on the next page)

Turn over

3. (e) continued.

- (i) Complete the two sentences about this graph:
(4 marks)

The **X**–axis shows

and is measured in

The **y**–axis shows

and is measured in

(continued on the next page)

Turn over

3. (e) continued.

(ii) Name this filter type.

(2 marks)

(iii) Give TWO reasons why the values on the X-axis start at 20 and finish at 20 k.

(2 marks)

(Total for Question 3 = 19 marks)

Turn over

Question 4 is about the bass.

4. Import the audio file ‘bass.wav’ to a new track in your DAW. The beginning of this audio track should be aligned with the start of bar 1.

The bass starts in bar 2.

(a) Name the synthesiser technique used on the last note of the bass in bar 17.

(1 mark)

(continued on the next page)

Turn over

4. continued.

**(b) (i) Give THREE reasons why
bass instruments are usually
panned to the centre of a
mix.**

(3 marks)

**Answer lines continue on the
next page.**

1

2

Turn over

4. (b) (i) continued.

3

(continued on the next page)

Turn over

4. (b) continued.

(ii) Identify ONE other instrument that is usually panned centrally.

A Backing vocal

B Grand piano

C Hi-hat

D Kick drum

Answer

(1 mark)

(Total for Question 4 = 5 marks)

Turn over

- 5. You should now have the following tracks in your DAW: drums, keyboard, vocal and bass.**

Follow the instructions below to produce a final stereo mix.

(a) Add reverb to the snare in bar 8.

- It should be the same type, level and length as the reverb on the hand clap in bar 33.**
- Do not add reverb to any other drums.**

(3 marks)

(continued on the next page)

Turn over

5. continued.

(b) Create a clean version of the vocal line 'I feel alive' in bar 35.

- Use sections of the vocal from bars 31 and 34.**
- Re-pitch the notes to match bar 35.**

(6 marks)

(continued on the next page)

Turn over

5. continued.

(c) Apply a 1/4 note delay to the vocal.

- **The delay must be audible but not dominate the dry vocal.**
- **There must be three repeats.**
- **The delay must be on the vocal for the whole song.**

(3 marks)

(d) Balance the mix.

(3 marks)

(continued on the next page)

Turn over

5. continued.

(e) Produce a final stereo mix.

- **Ensure that the mix output is at as high a level as possible.**
- **It should be free from distortion.**
- **Do not limit or compress the mix output.**
- **Ensure that silences at the beginning and end do not exceed one second.**

(3 marks)

(continued on the next page)

Turn over

5. continued.

Bounce/export the completed final mix as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q5_your candidate number' (e.g. q5_1234).

(Total for Question 5 = 18 marks)

TOTAL FOR SECTION A = 68 MARKS

Turn over

SECTION B

Answer Question 6. Write your answer in the space provided.

Turn over

6. Figure 1 in the Diagram Booklet shows a studio control room.

Evaluate the monitoring equipment and environment.

(16 marks)

Answer lines continue on the next nine pages.

Turn over

6. continued.

Turn over

6. continued.

Turn over

6. continued.

Turn over

6. continued.

Turn over

6. continued.

Turn over

6. continued.

Turn over

6. continued.

Turn over

6. continued.

Turn over

6. continued.

(Total for Question 6 = 16 marks)

TOTAL FOR SECTION B = 16 MARKS

TOTAL FOR PAPER = 84 MARKS

END OF PAPER
